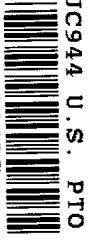


11/06/00



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11-07-00

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Utility Patent Application & Fee Transmittal

Inventor: Gary Odom
Title: Better Toolbars

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Box PATENT APPLICATION
COMMISSIONER FOR PATENTS
Washington, D.C. 20231



Transmitted herewith for filing is the patent application of:

Inventor(s): Gary Odom
For: Better Toolbars

Enclosed are:

- ☒ 9 pages of specification, including 18 claims and an abstract.
- ☒ 5 sheet(s) of drawings.
- ☒ Declaration.
- ☒ Information Disclosure Statement (PTO-1449) and copies of documents listed thereon.
- ☒ Small entity statement.
- ☒ Return Receipt Postcard (MPEP 503).

CLAIMS AS FILED

For	Claims Filed	Number Free	Number Extra	Rate	Basic Fee
Total Claims	18	20	=	\$9.00	\$ 0.00
Independent Claims	7	3	= 4	\$40.00	\$ 160.00
Multiple Dependent Claim Fee				\$135.00	
TOTAL FILING FEE					\$515.00

Small entity status is claimed for this application.

- ☒ A credit card form for the amount of \$515 to cover the filing fee is enclosed.
- ☒ Please return the enclosed postcard to confirm that the items listed above have been received.

Please address correspondence to:

15505 SW Bulrush Lane
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U.S.A.

telephone: (503) 590-6155
fax: (508) 632-5551
email: kogo@teleport.com

Signed:



Gary Odom

Date: 11/06/2000

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**STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR**

Docket Number (Optional)

Applicant, Patentee, or Identifier: Gary Odom

Application or Patent No.: _____

Filed or Issued: _____

Title: Better Toolbars

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- ☒ the specification filed herewith with title as listed above.
☐ the application identified above.
☐ the patent identified above.

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Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ No such person, concern, or organization exists.
☐ Each such person, concern, or organization is listed below.

Separate statements are required from each named person, concern, or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

Gary Odom
NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR


Signature of inventor

Signature of inventor

Signature of inventor

11/06/2000
Date

Date

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BETTER TOOLBARS

TECHNICAL FIELD

The invention relates to software for computer systems, more particularly toolbars used in applications.

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Toolbars have become a standard feature of computer software applications. Even menus have become ensconced in toolbars. The reason is that toolbars offer immediately visible, iconically symbolic, single-click access to commonly used features.

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- 10 One aspect of the invention is direct manual modeless configuration of tools and groups of tools in a toolbar. Another aspect is wrapping a toolbar. Another aspect is automatic configuration of tools and groups of tools in a toolbar based upon tool usage frequency.

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- Figure 1 is a block diagram of a computer suitable for practicing the invention.
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DETAILED DESCRIPTION OF THE INVENTION

- Figure 1 is a block diagram of a computer 100 which comprises at least a display device 101; CPU 102; storage 103, which comprises memory 104 and optionally one or more devices with retention
- 25 medium(s) 105 such as hard disks, diskettes, compact disks, or tape; and one or more input devices

106, such a keyboard 108 and/or one or more pointing devices 107, such as a mouse. The mouse 107 is most popular pointing device 107 for desktop computers 100. In the description below, the mention of mouse 107 is meant to include pointing devices 107 of any type. Such a computer 100 is suitable for use with this invention.

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Figures 2 depicts toolbars in the prior art. Two toolbars 1 are depicted: a function toolbar 1f in front of a menu toolbar 1m, horizontally arranged end-to-end. A toolbar 1 comprises a set of tool buttons 2, typically represented as icons symbolic of functional features. A menu toolbar 1m comprises menus 13, as depicted. A toolbar 1 has a handle 3 by which the toolbar 1 may be moved.

10

Tools 2 are typically functionally segregated by group dividers 5. The set of tools 2 between group dividers 5, or between one end of a toolbar 1 and a group divider 5 is referred to as a group 6 of tools 2. For example, tools 2 derived from the 'File' menu 12 may be segregated by a group divider 5 from tools derived from the 'Edit' menu 12. In the prior art, users may customize tools 2 while in a customization mode, grouping and partitioning tools 2 without regard to their functional derivation.

15

Toolbars 1 are depicted horizontally, but may have a vertical orientation as well. In the preferred embodiment, for horizontal orientation, the head 20 of a toolbar 1 is at the left, the end (tail) 21 at the right. For a horizontal toolbar 1, the length of a toolbar 1 or toolbar group 6 is the measurable distance from the head 20 of the toolbar 1 or group 6 to its tail 21. In the preferred embodiment, for vertical orientation, the head 20 of the toolbar 1 is at the top, the end (tail) 21 at the bottom. Tools 2 (with respect to a group 6) and groups 6 (with respect to a toolbar 1) also have a head 20 (horizontal: left or vertical: top) and tail 21 (horizontal: right or vertical: bottom) orientation corresponding to the toolbar 1.

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25

Directly means by direct manual manipulation with the intended target, as opposed to indirectly, which would be a result caused by indirect action, such as indirectly changing the length of a toolbar 1 or toolbar group 6 by selecting a change in toolbar 1 icon size via selection of a menu or dialog item. Manual means via user interaction (as opposed to automatic, such a change based upon usage frequency).

30

Other than adding or removing tools 2, tool 2 customization in the prior art occurs only within a customization mode. A mode is an exclusive mode of operation. In modal operation, a user is limited to operations specific to the particular mode. In tool 2 customization mode, for example, a user can only customize the toolbar 1; nominal application operations are inaccessible until the user quits the mode. In modeless operation, a user can act upon the nominal set of available operations. In graphic user interfaces, dialogs are commonly used to visibly indicate modality (though modeless dialogs also exist). Typically when a modal dialog is visible in the prior art, clicking the cursor outside the designated area of modality typically produces a warning sound, but does nothing else. In modes, operations specific to the mode (modal operations) must be completed before nominal application operations may proceed.

Figure 3 depicts compressed toolbars 1. A toolbar 1 in the prior art is compressed if the window in which the toolbar 1 resides is narrowed to less than the length of one or more toolbars 1 arranged horizontally end-to-end. Compressed toolbars 1 may have a compressed toolbar indicator 13 that acts as an access mechanism for an extension menu 16 for access to tools 2 (or menus 12 for menu toolbars 1m) that are no longer immediately visible.

Figures 4 through 8 depict, and Figure 9 summarizes, described toolbar 1 innovations and preferred embodiment methods, all of which are modeless. Other methods may be employed to equivalent result in alternate embodiments, including via menu item, function button, different selection or drag technique with or without specific keys pressed singularly or in combination, different key presses singularly or in combination, or other equivalent means.

Figure 4 depicts two toolbars 1 arranged horizontally end-to-end. Depicted in Figure 5, toolbars 1 may be merged (joined) 11: a tail-end 21 toolbar 1 (in the depicted example, the menu toolbar 1m) may be joined 11 to a head-end 20 toolbar 1 (in the depicted example, the function toolbar 1f). The preferred embodiment to merge 11 toolbars 1 is by selecting the tail-end 21 toolbar handle 3 (toolbar 1m in the Figure) while pressing the 'Ctl' key, then dragging the mouse 107 pointer onto the back end of the head-end toolbar (1f in the Figure), then releasing the mouse 107 button; not much movement, distance-wise. Upon completion of a merge operation in the preferred embodiment, the toolbar handle 3 becomes a group divider 5.

To separate a group 6 and horizontally succeeding groups 6 (i.e., the rest of the toolbar 1) in the preferred embodiment, select and drag the group divider 5 vertically while holding the 'Ctl' key; in other words, pull part of the toolbar 1 vertically off from the desired head 20 group 5.

- 5 As depicted in Figures 4 & 5, groups 6 may be directly compressed and expanded in the preferred embodiment by sliding the tail 21 group divider 5 horizontally. As depicted, the delete tool 2d and undo tool 2u shown in Figure 4 have been hidden in Figure 5. A compressed group indicator 7 signals a compressed group 6 in the preferred embodiment. In the preferred embodiment, a collapsed group 6 may be fully expanded by clicking the tail group divider 5 or compressed group indicator 7 while holding the 'Alt' key. Likewise, clicking a tail-end 21 group divider 5 while holding the 'Alt' key in the preferred embodiment compresses a group 6 if the group 6 is fully expanded. In the preferred embodiment, if the group 6 had never been compressed by a user, the group 6 is compressed to display of a single tool 2. If the group 6 has been compressed before, in the preferred embodiment the group 6 is compressed to the previously compressed number of tools 15 2. In other words, clicking a tail-end 21 group divider 5 while holding the 'Alt' key in the preferred embodiment acts as a compression/expansion toggle.

- A strip of one or more toolbars 1 may wrap-around when their enclosing window is narrowed such that the entire toolbar 1 strip is not visible. In the preferred embodiment, a wrap toggle button 8 at the end of a toolbar 1 strip is clicked to enable 8w or disable 8u toolbar wrapping. Figure 4 depicts the wrap toggle 8 off. Figure 5 depicts the wrap toggle 8 on. Figure 6 depicts a wrapped toolbar 1w. As depicted, in the preferred embodiment there are wrap indicators 9 to indicate toolbar 1w state.

- 25 In the preferred embodiment, a tool 2 may be modelessly moved within a group 6 or toolbar 1, moved to another toolbar 1, or removed from a toolbar 1, by pressing the 'Alt' key, then selecting and dragging a tool 2: to move a tool 2, drag the tool 2 to its target location over a toolbar 1 and release the mouse 107 button; to remove a tool 2, drag the tool 2 outside of any toolbar 1 and release the mouse 107 button. In the preferred embodiment, a tool 2 may be modelessly copied within a group 6 or toolbar 1, copied to another toolbar 1, or copied to create a new toolbar 1, by pressing the 'Esc' key, then selecting and dragging a tool 2: to copy a tool 2, drag the tool 2 to its target location over a toolbar 1 and release the mouse 107 button; to create a new toolbar 1 from a

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15

Toolbars 1 are depicted horizontally, but may have a vertical orientation as well. In the preferred embodiment, for horizontal orientation, the head 20 of a toolbar 1 is at the left, the end (tail) 21 at the right. For a horizontal toolbar 1, the length of a toolbar 1 or toolbar group 6 is the measurable distance from the head 20 of the toolbar 1 or group 6 to its tail 21. In the preferred embodiment, for vertical orientation, the head 20 of the toolbar 1 is at the top, the end (tail) 21 at the bottom. Tools 2 (with respect to a group 6) and groups 6 (with respect to a toolbar 1) also have a head 20 (horizontal: left or vertical: top) and tail 21 (horizontal: right or vertical: bottom) orientation corresponding to the toolbar 1.

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Figure 4 depicts two toolbars 1 arranged horizontally end-to-end. Depicted in Figure 5, toolbars 1 may be merged (joined) 11: a tail-end 21 toolbar 1 (in the depicted example, the menu toolbar 1m) may be joined 11 to a head-end 20 toolbar 1 (in the depicted example, the function toolbar 1f). The preferred embodiment to merge 11 toolbars 1 is by selecting the tail-end 21 toolbar handle 3 (toolbar 1m in the Figure) while pressing the 'Ctl' key, then dragging the mouse 107 pointer onto the back end of the head-end toolbar (1f in the Figure), then releasing the mouse 107 button; not much movement, distance-wise. Upon completion of a merge operation in the preferred embodiment, the toolbar handle 3 becomes a group divider 5.

To separate a group 6 and horizontally succeeding groups 6 (i.e., the rest of the toolbar 1) in the preferred embodiment, select the group 6 while pressing the 'Ctl' key, then drag the group divider 5 vertically; in other words, pull part of the toolbar 1 vertically off from the desired head 20 group 5.

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As depicted in Figures 4 & 5, groups 6 may be directly compressed and expanded in the preferred embodiment by sliding the tail 21 group divider 5 horizontally. As depicted, the delete tool 2d and undo tool 2u shown in Figure 4 have been hidden in Figure 5. A compressed group indicator 7 signals a compressed group 6 in the preferred embodiment. In the preferred embodiment, a collapsed group 6 may be expanded by one tool 2 by clicking the tail group divider 5 or compressed group indicator 7. In one embodiment, a group 6 may be collapsed by one tool 2 by clicking the tail group divider 5 or compressed group indicator 7 while pressing the 'Esc' key. In the preferred embodiment, a collapsed group 6 may be fully expanded by clicking the tail group divider 5 or compressed group indicator 7 while pressing the 'Alt' key. Likewise, clicking a tail-end 21 group divider 5 while holding the 'Alt' key in the preferred embodiment compresses a group 6 if the group 6 is fully expanded. In the preferred embodiment, if the group 6 had never been compressed by a user, the group 6 is compressed to display a single tool 2. If the group 6 has been compressed before, in the preferred embodiment the group 6 is compressed to the previously compressed number of tools 2. In other words, clicking a tail-end 21 group divider 5 while pressing the 'Alt' key in the preferred embodiment acts as a compression/expansion toggle.

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release the mouse 107 button. In the preferred embodiment, a tool 2 may be modelessly copied within a group 6 or toolbar 1, copied to another toolbar 1, or copied to create a new toolbar 1, by pressing the 'Esc' key, then selecting and dragging a tool 2: to copy a tool 2, drag the tool 2 to its target location over a toolbar 1 and release the mouse 107 button; to create a new toolbar 1 from a tool 2, while retaining the tool 2 in its present position, drag the tool 2 outside of any toolbar 1 and release the mouse 107 button. Figure 7 depicts an example of visual feedback to a user of a selected tool 2hs. Figure 8 depicts the resultant rearrangement from of a tool 2 move by dropping the history tool 2h onto the toolbar 1 in front of the search tool 2s.

10 The technique of select, 'drag & drop', as it is commonly called, is known in the prior art, but has never been known to be applied to modeless configuration of toolbar 1 components. As in the prior art, ambiguous placement by sloppy dropping, such as dropping right on top rather than decidedly in front or behind, can be resolved to one pixel resolution fore or rear, and, if dropped dead center on top of a tool 2, a simple default rule to drop behind (the preferred embodiment) or in front of the existing tool 2 applied.

Similar to tool 2 rearrangement, in the preferred embodiment, a group 6 may be modelessly rearranged within a toolbar 1, moved to another toolbar 1, or taken off a toolbar 1 to become a separate toolbar 1 unto itself, by selecting the group 6 while pressing the 'Ctl' and 'Alt' keys, then dragging a group 6 to its target location and releasing the mouse 107 button. Note that in the preferred embodiment, a group 6 itself is selected, not group divider 5 nor toolbar handle 3; also note the unique key press combination in the preferred embodiment. If creating a new toolbar 1 from one or more tools 2 or groups 6, a user may be prompted to enter a new toolbar 1 name.

25 Optionally, tools 2 within a group 6 or integral (whole) groups 6 within a toolbar 1 may be automatically rearranged based upon usage frequency. A frequency (tool 2 usage) counter tracks each tool's 2 selection. Within a group 6, a frequently used tool 2 may be promoted toward the head 20 of a group 6 after a relative usage frequency threshold is achieved. The preferred embodiment of frequency threshold is to shift a tail-end tool 2 vis-à-vis its head-end 20 neighbor after a minimum of eight uses between the two tools 2 when the relative proportion of usage favors the tail-end 21 tool 2 by a relative two-to-one: so, a six (tail 21) to two (head 20) relative tool 2 use would cause a shift, as would a 7-3, but a 5-3 margin is less than two-to-one, so would

not cause a shift. Similar methods may be employed in tracking relative aggregate usage of tools 2 in a group 6 to similarly rearrange groups 6 of a toolbar 1 based upon usage frequency.

In the preferred embodiment, tool 2 usage counters are not reset until necessary due to counter overflow. In alternate embodiments, tool 2 usage counters may be reset or otherwise adjusted after a shift.

Shifting tools 2 or groups 6 of toolbars 1 around automatically based upon usage frequency may seem spooky to users (due to its infrequency, a user may not remember setting such an option), so it is recommended that a confirmation prompt optionally appear each time a rearrangement is in the offing to inform and ask consent for the shift.

Optionally, some tools 2 or groups 6 may be exempt from rearrangement. For example, swapping the back 18 and forward 19 tools 2 might inherently be confusing, as the two have a culturally decided relational orientation as time vectors. Similarly, for example, groups 6 of toolbars 1 may have a certain logical order, such as correspondence to menu 12 order, whereby rearrangement may be undesirable. In the preferred embodiment, rearrangement exemption is a user option.

The following is claimed:

1. Software from computer-readable medium(s) modelessly rearranging at least one tool on a toolbar exclusive of tool addition or removal.

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2. Software from computer-readable medium(s) directly rearranging at least one integral tool group of a toolbar.

3. Software according to claim 2 modelessly.

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4. Software from computer-readable medium(s) wrapping a toolbar.

5. Software from computer-readable medium(s) directly altering the length of a tool group in a toolbar exclusive of tool addition or removal.

15

6. Software according to claim 5 modelessly.

7. Software according to claim 5 contracting the length of a tool group to hide at least one tool without a change in toolbar length.

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8. Software according to claim 7 by directly manipulating a tool group divider.

9. Software according to claim 8 modelessly.

25 10. Software according to claim 5 expanding the length of a tool group to reveal at least one previously hidden tool without a change in toolbar length.

11. Software according to claim 10 by directly manipulating a tool group divider.

30 12. Software according to claim 11 modelessly.

13. Software from computer-readable medium(s) directly merging two toolbars into one.

14. Software according to claim 13 modelessly.

15. Software from computer-readable medium(s) automatically rearranging at least one tool based
5 upon relative usage frequency of tools within a toolbar group.

16. Software according to claim 15 preventing at least one tool from being rearranged.

17. Software from computer-readable medium(s) automatically rearranging at least one group of a
10 tools on a toolbar based upon aggregate usage frequency of tools within a tool group compared to
another group.

18. Software according to claim 17 preventing at least one group from being rearranged.

15

ABSTRACT

Innovations in configuring toolbars enhance the user experience in using application toolbars.

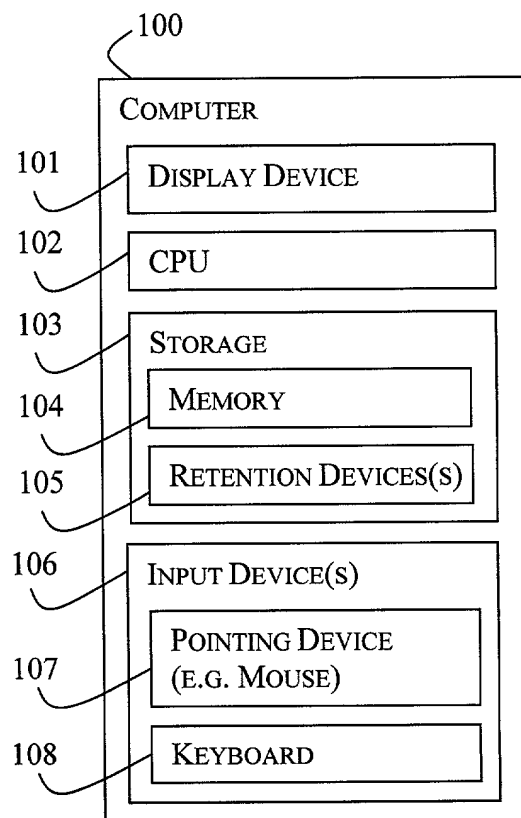


FIGURE 1

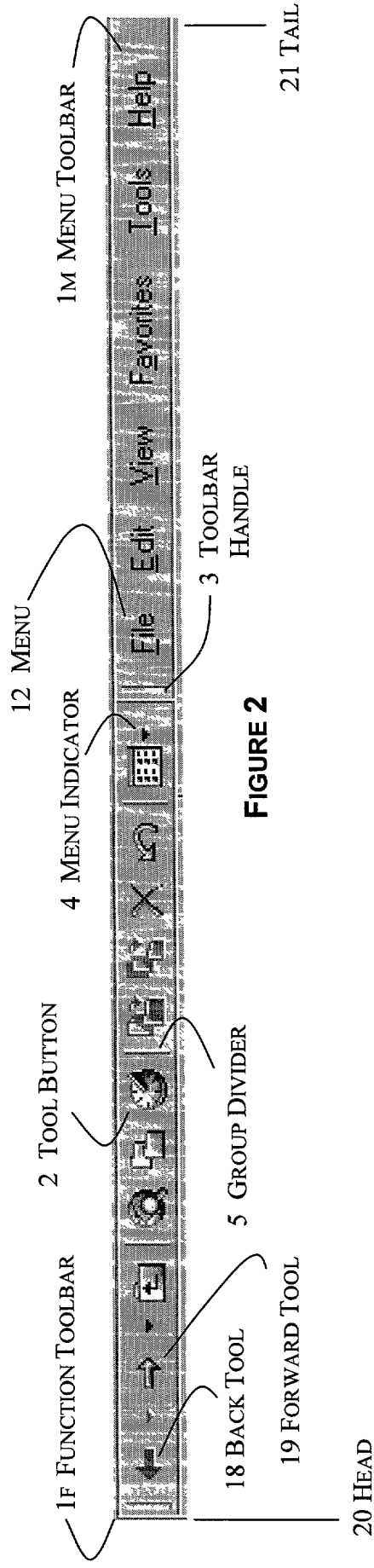


FIGURE 2

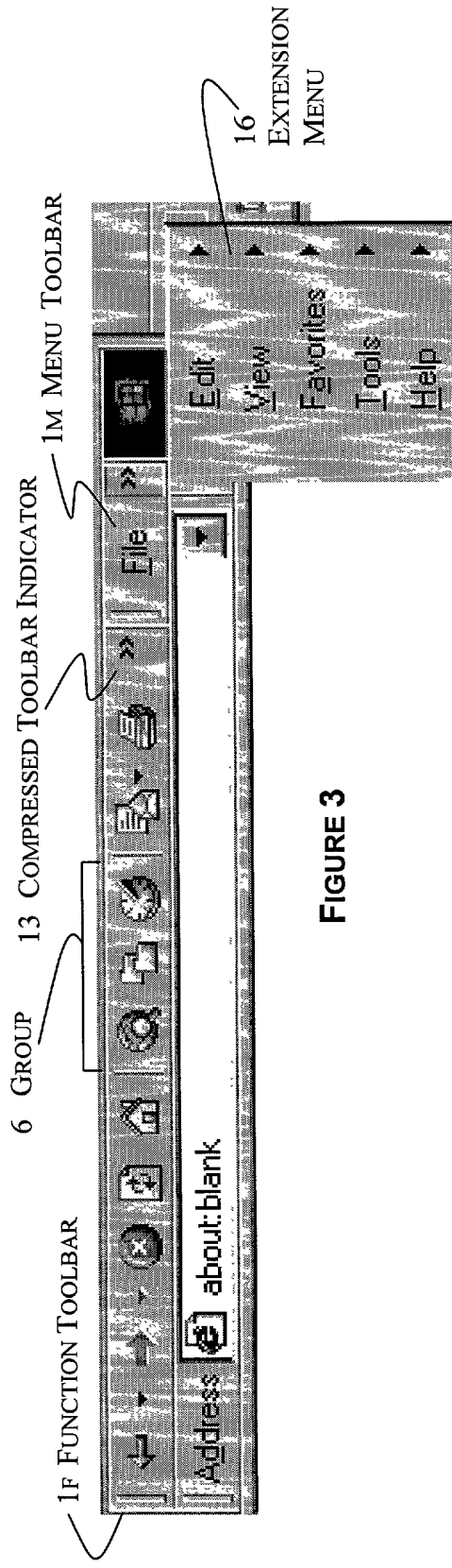


FIGURE 3

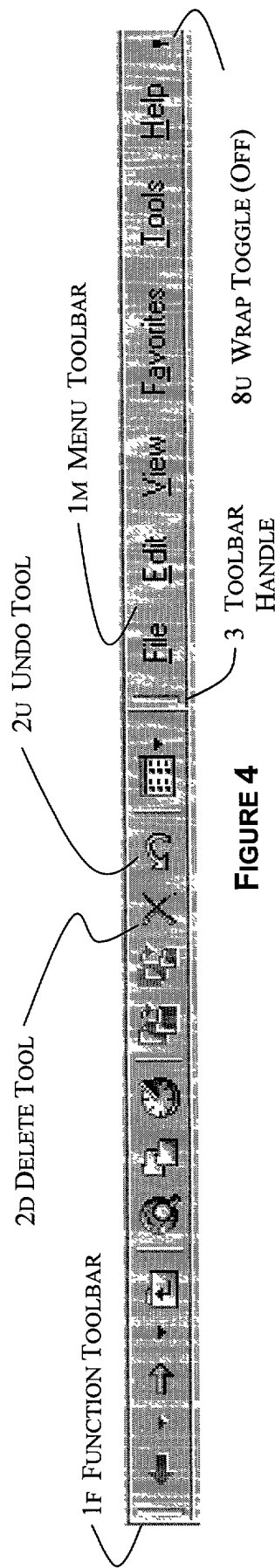


FIGURE 4

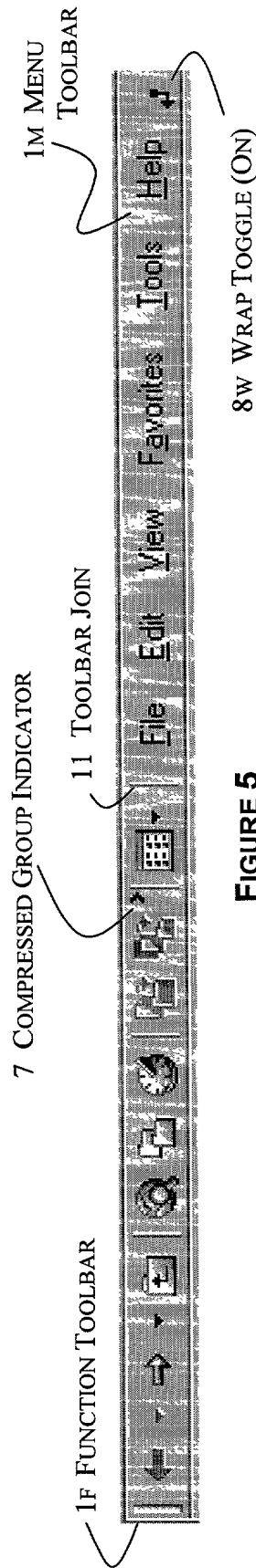


FIGURE 5

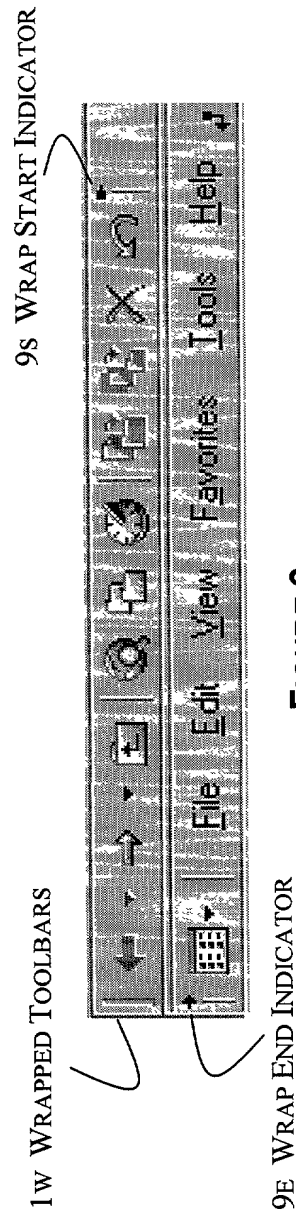


FIGURE 6

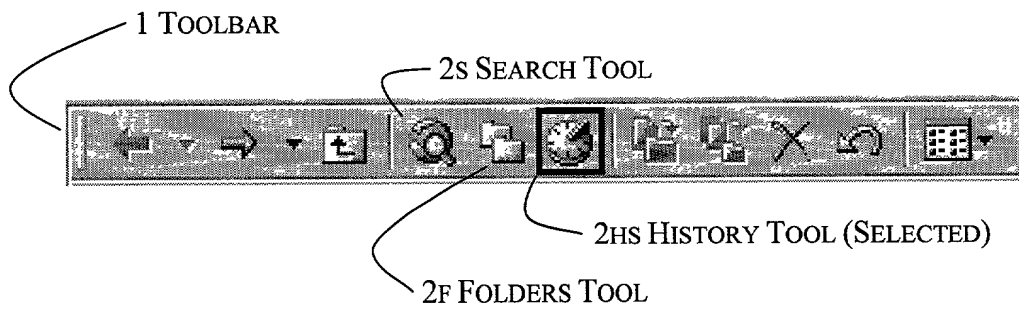


FIGURE 7

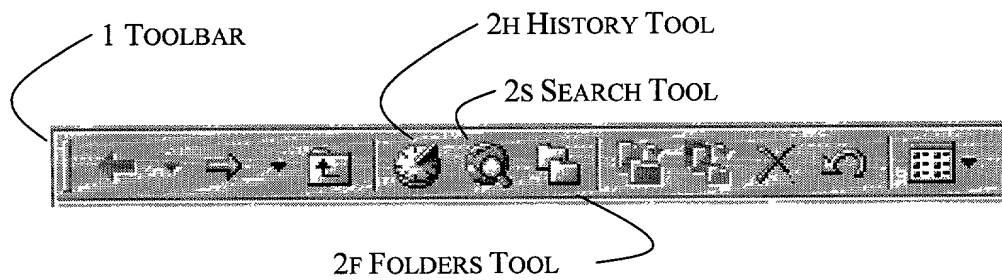


FIGURE 8

<i>FEATURE</i>	<i>MOUSE ACTION</i>	<i>KEY</i>
JOIN TOOLBARS	DRAG TOOLBAR HANDLE ONTO END OF JOINING TOOLBAR	CTL
SEPARATE GROUPS	DRAG GROUP DIVIDER VERTICALLY	CTL
MOVE GROUP	DRAG GROUP	CTL & ALT
MANUALLY COMPRESS/EXPAND GROUP	DRAG GROUP DIVIDER HORIZONTALLY	
ONE-CLICK COMPRESS/EXPAND GROUP	CLICK GROUP DIVIDER (TOOLBAR HANDLE IF FIRST GROUP)	ALT
TOGGLE TOOLBAR WRAP	CLICK WRAP TOGGLE BUTTON	
MOVE, REMOVE TOOL	DRAG TOOL	ALT
COPY TOOL	DRAG TOOL	ESC

FIGURE 9

Please type a plus sign (+) inside this box → ☐

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DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)	Attorney Docket Number	
	First Named Inventor	Gary Odom
	COMPLETE IF KNOWN	
	Application Number	/
	Filing Date	
	Group Art Unit	
<input checked="" type="checkbox"/> Declaration Submitted with Initial Filing	OR	<input type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)
Examiner Name		

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Better Toolbars

the specification of which (Title of the Invention)

☒ is attached hereto
OR

☐ was filed on (MM/DD/YYYY) as United States Application Number or PCT International

Application Number and was amended on (MM/DD/YYYY) (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
			<input type="checkbox"/>	YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor:		<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle (if any))			Family Name or Surname		
Gary			Odom		
Inventor's Signature					Date
		11/6/00			
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				Country	U.S.

☐ Additional inventors are being named on the supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto